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SAFETY INSTRUCTIONS

Please read and follow all safety instructions provided BEFORE using your new projector. Failure to comply with safety instructions may result in fire, electrical shock, or personal injury and may damage or impair protection provided by equipment. Please save all safety instructions.

Safety Definitions:

- **Warning:** Statements identify conditions or practices that could result in permanent personal injury.
- **Caution:** Statements identify conditions or practices that could result in damage to your equipment.

Safety Terms:

- **Warning:** Don't look directly into the lens when the projector is turned on.
- **Warning:** Don't block ventilation openings.

• **Warning:** To replace the lamp, turn the power off and unplug the power cord. To avoid burns, wait 30 minutes before opening the lamp door. Follow all instructions provided in the User's Guide.

• **Warning:** Please use the power cord provided. Connect the power cord to a receptacle with a protective safety (earth) ground terminal.

- **Warning:** Refer all service to qualified service personnel. Servicing your own projector will void the warranty. See below for the customer service contact information.
- **Caution:** Don't set liquids on the projector. Spilled liquids may damage your projector.
- **Caution:** Don't place the projector on a hot surface or in direct sunlight.
- **Caution:** Do not drop the projector. Transport the projector in an InFocus-approved case; see the Appendix for a list of cases.

- **Caution:** For ceiling mount installations, please use the ceiling mount recommended in the User's Guide and follow all instructions provided with it.

Safety Symbols:

Attention: For information about usage of a feature, please refer to the User's Guide.

Warning: Hot surface. Do not touch.

An arrow pointing to the lamp door of the projector.

Customer Service

The first place to look for help is in this manual. Be sure to check the guidelines in "Troubleshooting" on page 36.

If this manual doesn't answer your question, call your Faroudja dealer or Faroudja at **1-408-735-1492**.
You can also call InFocus Customer Service directly at **1-800-799-9911**. Customer Service is free between 6 a.m. and 6 p.m. PST, Monday through Friday. Service is available in North America after hours and on weekends for a fee at **1-888-592-6800**.

In Europe, call InFocus in The Netherlands at **(31) 35-6474010**.
In Singapore, call **(65) 332-0659**.

Or, send us an e-mail at **techsupport@infocus.com**

Our World Wide Web address is **http://www.infocus.com**.

INTRODUCTION

The InFocus® LS700™ lightweight multimedia projector combines powerful and sophisticated features with easy-to-use, intuitive controls. Dynamic video is provided by Faroudja Laboratories, the industry leader in high-end video performance. Faroudja's Picture Plus™ technology provides uncompromised video images. Built-in multimedia features include a palette of 16.7 million colors and active matrix liquid crystal display (LCD) technology. The LS700 is ideal for home theater applications that demand exceptional video quality and easy setup and maintenance.

Image Resolution

The XGA resolution of the 700's projected image is 1024x768. If your computer's screen resolution is higher than 1024x768, reset it to a lower resolution before you connect the 700**.**

NOTE: *The projector automatically expands 640x480 and 800x600 images to 1024x768. You can display these images at their original resolutions by turning off the Auto Resize feature. See "Auto Resize-Computer" on page 24 for more information.*

Compatibility

The projector is compatible with a wide variety of video devices and computers, including:

- Most standard DVD players, VCRs, camcorders and laser disc players.
- IBM-compatible computers, including laptops, up to 1024x768 resolution at 75 Hz.
- Apple Macintosh and PowerBook computers up to 1024x768 resolution.

Unpacking the Projector

The projector comes with the items shown in Figure 1. Check to make sure all are included. Contact your dealer immediately if anything is missing.

NOTE: *The contents of your shipping box may vary depending on the configuration you've ordered.*

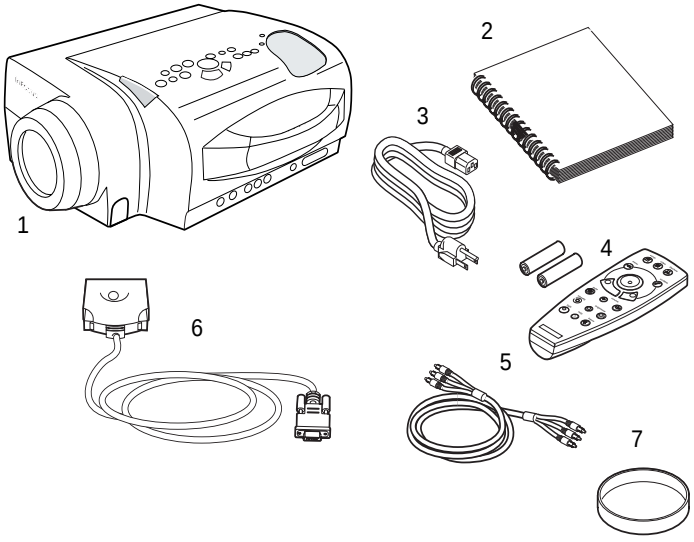

FIGURE 1

Shipping box contents

1. LS700 projector
2. *LS700 User's Guide*
3. power cord
4. remote and batteries
5. RCA audio/video (A/V) cable
6. CableWizard Lite computer cable
7. lens cap

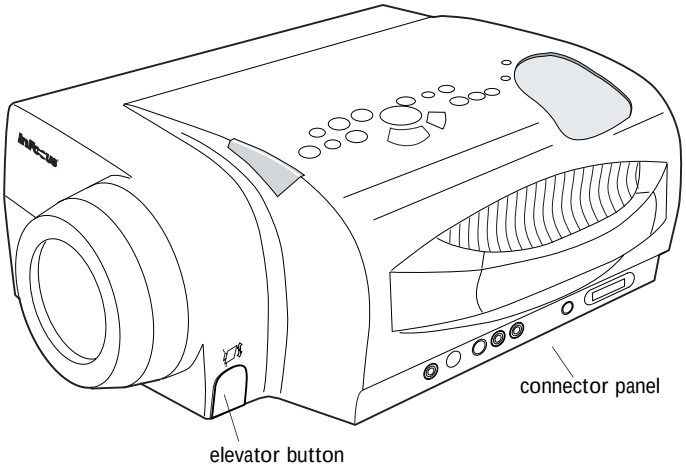

FIGURE 2

Side view of projector

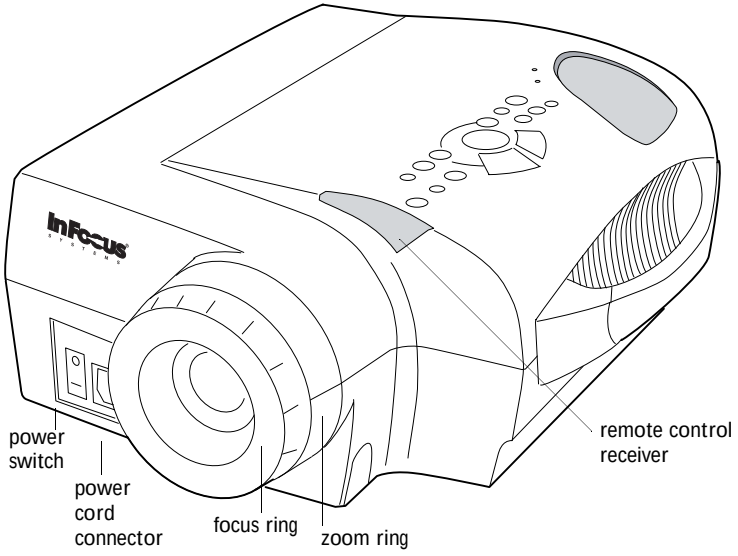

FIGURE 3

Front view of projector

NOTE: *The focus ring is threaded to fit a 77mm camera lens filter. You may want to use a filter to customize the image for a particular home theater installation.*

Usage Guidelines

- Do not look directly into the projection lens when the projector is turned on. The bright light may harm your eyes.
- Do not block the grills on the projector. Do not place the projector on cloth table coverings, as they may get sucked up to the vents. Restricting the air flow can cause it to overheat and turn off.
- Handle the projector as you would any product with glass components. Be especially careful not to drop it.
- Avoid leaving the projector in direct sunlight or extreme cold for extended periods of time. If this happens, allow it to reach room temperature before use.
- This projector is not intended for use in a mainframe computer room as defined in the Standard for the Protection of Electronic Computer / Data Processing Equipment, ANSI / NFPA 75.
- Transport the projector in a vendor-approved hard or soft case. Part numbers for these cases are listed on page 46. Call your dealer to order.

If You Need Assistance

The first place to look for help is in this manual. Be sure to check the guidelines in "Troubleshooting" on page 36.

If this manual doesn't answer your question, call your Faroudja dealer or Faroudja at **1-408-735-1492**.
You can also call InFocus Customer Service directly at **1-800-799-9911**. Customer Service is free between 6 a.m. and 6 p.m. PST, Monday through Friday. Service is available in North America after hours and on weekends for a fee at **1-888-592-6800**.
In Europe, call InFocus in The Netherlands at **(31) 35-6474010**.
In Singapore, call **(65) 332-0659**.
Or, send us an e-mail at **techsupport@infocus.com**

Warranty

This product is backed by a limited two-year warranty. The details of the warranty are printed at the back of this manual. A longer term warranty can be purchased. Refer to page 46 for the part number.

SETTING UP THE PROJECTOR

1 Place the projector on a flat surface.

- The projector must be within 10 feet (3 m) of your power source and within 6 feet (1.8 m) of your computer.
- If you want to project from behind a translucent screen, set up the projector behind your screen. See "Rear Projection" on page 27 to reverse the image.
- If you are installing the projector on the ceiling, refer to the *LP700 Series Ceiling Mount Installation Guide* that comes with the Ceiling Mount Kit for more information. To turn the image upside down, see "Ceiling Projection" on page 27. The Ceiling Mount Kit is sold separately; see page 46.

2 Position the projector the desired distance from the screen.

- The distance from the lens of the projector to the screen determines the size of the projected image. Figure 4 shows three projected image sizes using the lens at minimum focusing distance. For more information about image size, see "Projected Image Size" on page 47.

3 Make sure the projector and your computer are turned off.

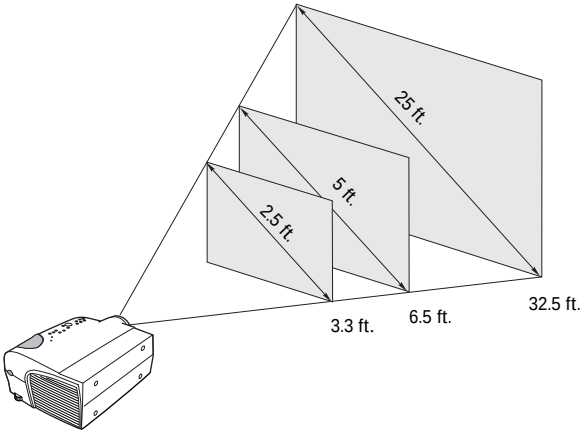

FIGURE 4

Projected image size (minimum focusing distance)

***NOTE**: Optional accessories, sold separately, let you increase the distance between the projector and your computer to 70 feet (21 m). See "Optional Accessories" on page 46.*

NOTE: Before you continue, make sure the projector and your equipment are turned off. If you're connecting a computer, make sure the distance between it and the projector is 6 feet or less.

NOTE: In some older computers, the monitor connector does not have a hole for Pin 9. If you have trouble connecting the CableWizard computer cable to your computer, contact InFocus Technical Support.

Preparing to Connect Your Equipment to the Projector

Now you're ready to connect your equipment.

Steps for connecting the different types of equipment are given on the pages listed below.

Equipment you want to connect	Page
Video player	page 7
External speaker	page 9
Computer	page 10

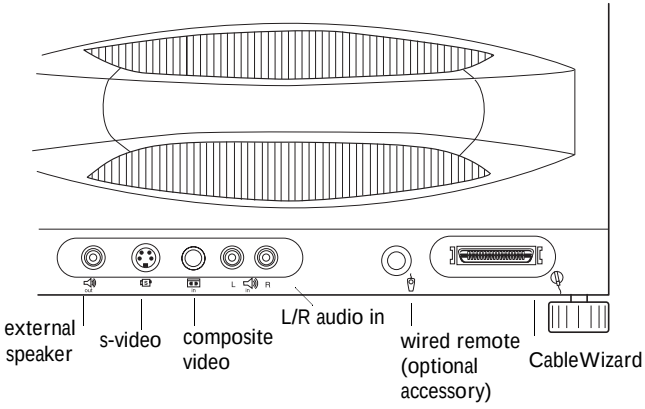

FIGURE 5

Connector panel

Connecting a Video Player

1 If your video player uses a round, one-prong composite video connector, you'll need only the A/V cable that shipped with the projector.

- If your video player uses a round, four-prong S-video connector, you'll need an S-video cable in addition to the A/V cable. The S-video cable is sold separately. (See "Optional Accessories" on page 46.)

2 Plug the A/V cable's yellow connector into the "video-out" port on your video player (Figure 6). This port may be labeled "To Monitor."

- If you're using an S-video cable, connect it to the "s-video out" connector on the video player (Figure 7).

3 Plug the other yellow connector into the composite connector on the projector.

- If you're using S-video, plug the other end of the cable into the "s-video" connector on the projector (Figure 7).

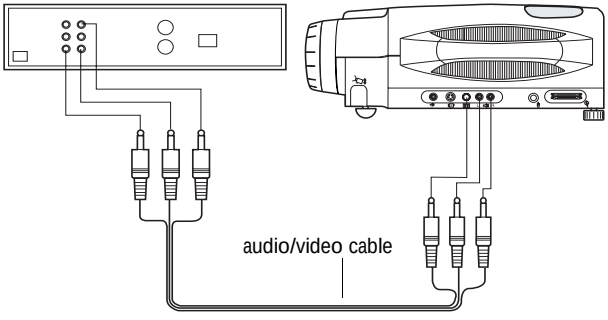

FIGURE 6

Connecting the projector to a video player using the standard A/V cable (with composite video connector)

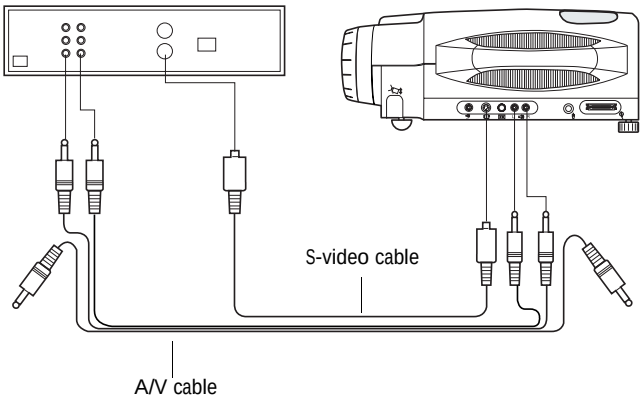

FIGURE 7

Connecting the projector to a video player using an S-video cable and the audio connectors on the standard A/V cable

4 Plug the A/V cable's white connector into the left "audio out" port on your video player. Plug the cable's red connector into the right "audio out" port on the video player (Figure 6 and Figure 7).

- If you're using an S-video cable, the yellow connectors on the A/V cable remain unused (Figure 7).

5 Plug the A/V cable's other white and red connectors to the left and right "audio in" ports on the projector.

6 Attach external speakers (see the following page).

The projector is compatible with these major broadcast video standards: NTSC, PAL, PAL-M, and PAL-N. It automatically adjusts to optimize its performance for the incoming video. The input signals for PAL-M and PAL-N video cannot be automatically detected, therefore they must be chosen manually; see "Video Standard" on page 27.

***NOTE**: The projector does not have internal speakers, so you must attach external speakers for audio.*

***NOTE**: You can connect 2 separate video sources (S-video and composite) and toggle between them.*

***CAUTION:** Your video player may also have a "Video Out" port for a coaxial cable connection. DO NOT use this to connect to the projector.*

Connecting an External Speaker

The projector has no internal speakers, but it can loop-through audio so you can control the audio from the projector. Connect the A/V cable's red and white audio connectors to the projector (see the previous page), then connect your speakers.

To connect one or two external speakers, plug the speaker cable into the (audio out) connector on the projector.

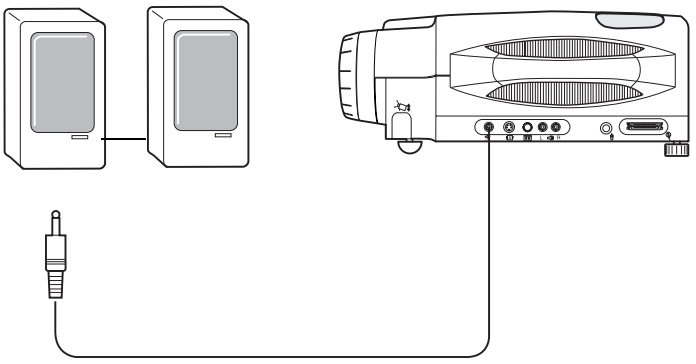

FIGURE 8

Connecting external speakers

***NOTE**: The external speakers must be amplified.*

Connecting a Computer

1 Plug the end of the CableWizard Lite computer cable into the video connector on your computer.

2 Plug the end of the CableWizard Lite computer cable into the connector on the projector.

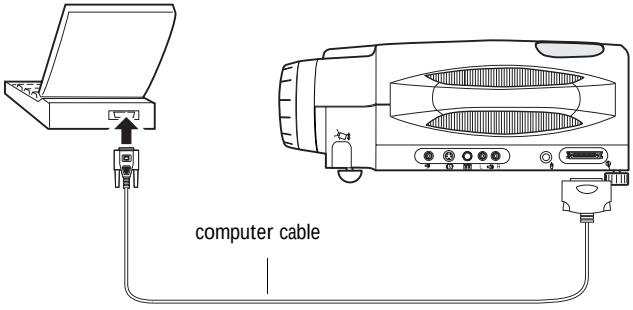

FIGURE 9

Connecting the CableWizard computer cable to a computer

If you are connecting a Macintosh computer, you must purchase Mac adapters. See "Optional Accessories" on page 46.

NOTE: *Many laptop computers do not automatically turn on their external video port when a secondary display device such as a projector is connected. Refer to your computer manual for the command that activates the external video port.*

NOTE: *If you want audio, mouse control, or monitor loop through, purchase the full-featured CableWizard, ordered separately. See "Optional Accessories" on page 46.*

Powering up the Projector and Adjusting the Image

1 Remove the lens cap.

2 Plug the power cord into the front of the projector, then plug it into your electrical outlet. A surge-protected power strip is recommended if power surges are common in your area.

3 Turn on the projector by pressing the "I" side of the power switch on the front of the projector.

- The InFocus startup screen displays and the Power LED lights (Figure 14 on page 17).

4 If you connected a video player, turn it on.

- Press the **video 1** button on the keypad or remote to display the image from your video player. See "Video" on page 18 for details on the video button. (You can select a default source to determine which source the projector examines first during power-up for active video; see "Default Source" on page 27.)

5 If you connected any external speakers, turn them on.

- Use the **volume** buttons to adjust the volume.
- If you don't want to hear the sound from your video player, press the **mute** button.

6 If you connected your monitor, turn it on.

7 Turn on your computer.

- The computer image should display on the projection screen. (If a video source is active, press the **computer** button to display your computer's image.)
- If necessary, use the **brightness** buttons on the keypad to adjust the brightness. You can make further adjustments to the image from the projector's on-screen menus. To open the menus, press the **menu** button on the remote or keypad. Then select the Display or Image menus. For more information about the menus, see page 20.
- If you don't want to hear the sound from your computer or video player, press the **mute** button.

***NOTE**: Always use the power cord that shipped with the projector.*

***CAUTION:** If the lamp LED remains solidly lit after the projector has powered on, the lamp needs to be replaced. Refer to "Replacing the Projection Lamp" on page 33 for more information.*

***NOTE**: With some computers, the order in which you power up the equipment is very important. Most computers should be turned on last, after all other peripherals have been turned on. Refer to your computer's documentation to determine the correct order.*

Turning Off the Projector

If you want to turn off the projector for a short period of time, press the **standby** button on the remote or keypad. This blanks the screen for 1 minute, but keeps the projector running. After 1 minute, the lamp goes out (the projector keeps running). To exit standby mode, press the **standby** button again. (It takes several seconds for the projection lamp to reach full power and project the image again.) You can change the amount of time the projector stays in standby mode; see "Standby Time" on page 27 for details.

To completely power off the projector, press the "O" side of the power switch on the front of the projector. If you want to turn the projector back on immediately, you must allow about 30 seconds for the lamp to cool. The lamp won't light if it's too hot.

CAUTION: *When you disconnect the projector after you have switched it off, always remove the power cord from the electrical outlet first, then remove it from the projector.*

USING THE PROJECTOR

This section describes how to use and make adjustments to the projector. It also provides a reference to the keypad and remote buttons and the options available from the on-screen menus.

Basic Image Adjustment

1. Make sure you have powered up your equipment in the right order (page 11).
2. If the image doesn't display completely, adjust the height and tilt of the projector (page 14), zoom the image (page 14), or center the image by adjusting its horizontal or vertical position (page 26).
3. If the image is out of focus, rotate the lens to focus it (page 14). It is easier to adjust the focus while viewing the on-screen menus as a reference.
4. If the computer image appears to shimmer or if it has blurry vertical bars after you have adjusted the focus, turn Auto Resize-Computer (page 24) off and then back on to reset the automatic sync and tracking. If that doesn't clear up the image, adjust the sync (page 25) and / or the tracking (page 25) manually.
5. If the colors don't look right, adjust the brightness (page 19) and tint (page 22).

Adjusting the Projector

To focus the image, rotate the focus ring (Figure 10) until the image is clear. To zoom the image, rotate the zoom ring. This adjusts the image size without affecting focus.

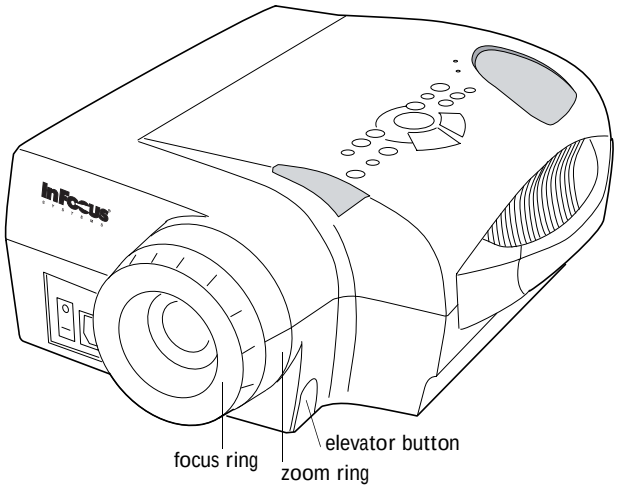

FIGURE 10

Focus ring, zoom ring, and elevator button

The projector is equipped with a self-locking, quick-release elevator foot and button (Figure 12) and a leveling knob (Figure 11).

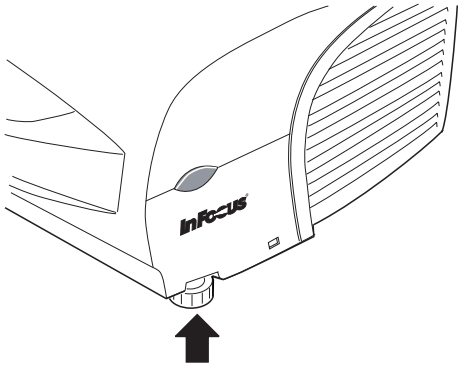

FIGURE 11

Leveling knob

To raise the projector:

1. Press and hold the elevator button (Figure 10).
2. Raise the projector to the height you want, then release the button to lock the elevator foot into position.
3. If necessary, use the leveling knob (Figure 11) to adjust the angle of the projected image.

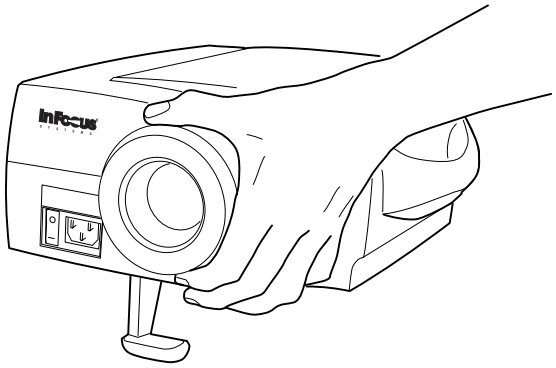

FIGURE 12

Adjusting the height of the projector

To lower the projector:

1. Press the elevator button.
2. Lower the projector.
3. If necessary, use the leveling knob (Figure 11) to readjust the angle of the projected image.

NOTE: If you can't aim the remote control at the projector so that its signal is received — for example, when using rear projection — connect it directly to the projector with the optional remote control cable. See "Optional Accessories" on page 46.

Using the Remote Control

Point the remote control at the projection screen or at the front or rear of the projector. The range for optimum operation is about 40 feet. If you point the remote at the projection screen, the distance to the screen and back to the projector must be less than or equal to 40 feet. For best results, point the remote directly at the front or the rear of the projector.

The remote has a disk mouse, two mouse buttons, and several feature buttons. Press anywhere on the edge of the disk mouse to move the cursor on the screen. You can move the cursor at any angle by pressing the corresponding edge of the disk.

Using the Remote and Keypad Buttons

This section provides a reference to the keypad and remote buttons.

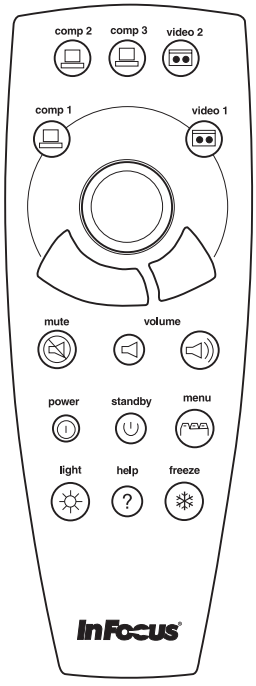

FIGURE 13

Remote

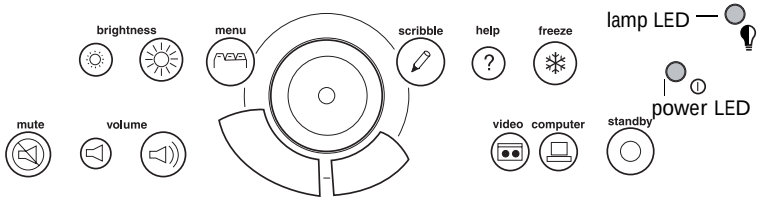

FIGURE 14

Keypad

Computer

When you have more than one source (computer and video) connected to the projector, select between them by pressing the button for the source you want.

Press **computer** to display your computer image.

Freeze

The **freeze** button halts, or "freezes" the projected image. Use this button to freeze a frame of video (the video continues to run but the projected image is frozen). You can also freeze an image from a computer source on the screen, allowing you to perform other operations on the computer without the audience seeing them. Press **freeze** again when you want the image to return to normal.

Help

Press **help** to display the on-screen help information. You can also access help from the menus.

Menu

Press **menu** to open the on-screen menus. Press **menu** again to close the menus. When you close the menus, the projector saves any changes you made. For more information about the on-screen menus, see page 20.

Mute

Pressing the **mute** button silences any external speakers that are connected.

To return the volume to its previous setting, press **mute** again or press either **volume** button.

Standby

When you press **standby**, the display and audio turn off and a blank screen is displayed for 1 minute. After 1 minute, the lamp goes out if you haven't pressed **standby** again. You can change the amount of time the projector stays in standby mode; see "Standby Time" on page 27 for details.

- If you press **standby** again within 1 minute, the projector returns to normal operations immediately.
- If you press **standby** again after 1 minute, there is about a 30 second delay before the lamp turns back on.

Video

When you have more than one source (computer and video) connected to the projector, select between them by pressing the button for the source you want.

Note that the keypad has one video button, the remote has a Video 1 button and a Video 2 button.
On the keypad, press **video** to display the image from your video player. Press it again to toggle between a composite video input and an S-video input.
On the remote, press Video 1 to toggle between a composite video input and an S-video input. Press Video 2 to toggle between 4x3 format and 16x9 format.

Volume

- To increase the volume, press
- To decrease the volume, press

Volume adjustments are saved for each source.

Keypad only buttons

Brightness
Adjusting the brightness lightens or darkens the image.

- To darken the image, press
- To lighten the image, press

Scribble
This feature is not available on this product.

Remote only buttons

Power
The Power button does not function on this product. To turn the projector on, press the “I” side of the power switch.

Light
This button illuminates the remote. The light goes off automatically 10 seconds after you press any button.

Comp 2 and **Comp 3**
This feature is not available on this product.

Using the Menus

The projector has six drop-down menus that allow you to make image adjustments and change a variety of settings. Most of these adjustments aren't available directly from the keypad.

FIGURE 15

On-screen menus

To open the on-screen menus, press the **menu** button on the remote or keypad. Press **menu** again when you want to close the menus and save any changes.

To select a menu, use the disk mouse on the keypad or remote to move the cursor left and right to highlight the menu you want. The drop-down menu appears.

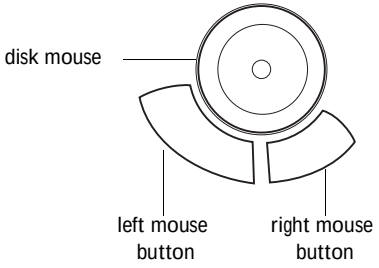

FIGURE 16

Disk mouse and mouse buttons on keypad and remote

To change a menu setting, use the disk mouse to move the cursor up and down to the setting you want to change (the setting is highlighted red), then use the left and right mouse buttons to adjust a setting or select an option. Some submenus, such as Brightness, consist of a slider bar you use to increase or decrease a value; some submenus, such as Standby Time, consist of options you scroll through to select the desired one. All changes are saved when you close the menus.

Display Menu

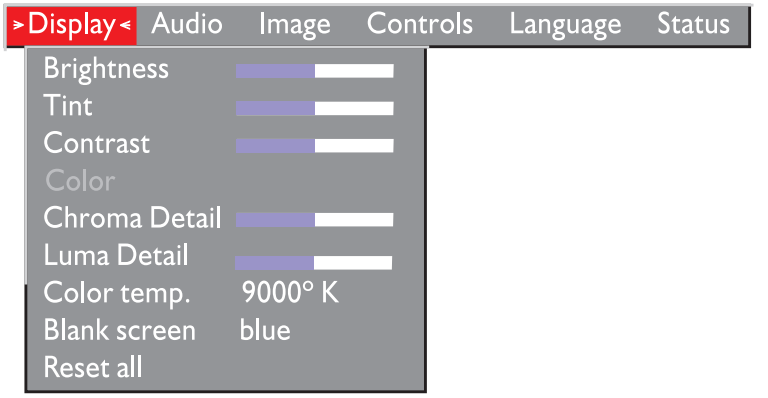

FIGURE 17

Display menu

Brightness

Adjusting the brightness changes the intensity of the image.

- Press the left mouse button to darken the image.
- Press the right mouse button to lighten the image.

Tint

The tint adjusts the red-green color balance in the projected image.

- Press the left mouse button to increase the amount of green in the image.
- Press the right mouse button to increase the amount of red in the image.

Contrast

The contrast controls the degree of difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.
Contrast is also used to remove oversaturated white areas. In addition, it can be used to perfect the image on some older VCRs.

- Press the left mouse button to decrease the contrast.
- Press the right mouse button to increase the contrast, making the whites appear whiter.

NOTE: *Changing the brightness using the menu is the same as changing it using the keypad.*

Color
The color setting adjusts a video image from black and white to fully saturated color.

- Press the left mouse button to decrease the amount of color in the image.
- Press the right mouse button to increase the amount of color in the image.

Chroma Detail
This setting adjusts the transition between color edges.

- Press the left mouse button to decrease the detail, smoothing out the color transition.
- Press the right mouse button to increase the detail, sharpening the color transition.

NOTE: *The Chroma and Luma Detail options provide direct control of the Faroudja Picture Plus Technology capabilities.*

Luma Detail
This setting adjusts the transition between brightness edges, (similar to a sharpness adjustment).

- Press the left mouse button to decrease the detail, smoothing out the brightness transition.
- Press the right mouse button to increase the detail, sharpening the brightness transition.

Color Temperature
This setting has 6 preset values you can select which adjusts the blue to red balance in the projected image. Click either mouse button to select the desired color temperature.

Blank Screen
Blank Screen determines what color is displayed when there is no active source and when the projector is in standby. Press either mouse button to toggle between the two options.

Reset All
Click either mouse button to reset all the options in this menu to their original (factory default) settings.

Audio Menu

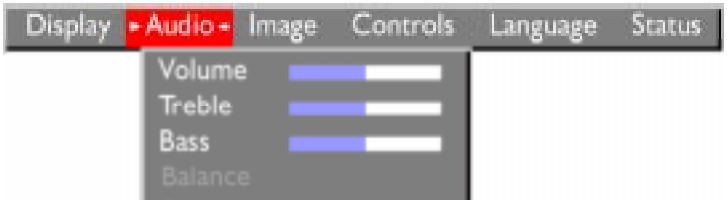

FIGURE 18

Audio menu

Volume

- Press the left mouse button to decrease the volume.
- Press the right mouse button to increase the volume.

Volume adjustments you make are saved for each source.

Treble

The treble setting controls the higher frequencies of your audio source.

- Press the left mouse button to decrease the treble.
- Press the right mouse button to increase the treble.

Bass

The bass setting controls the lower frequencies of your source.

- Press the left mouse button to decrease the bass.
- Press the right mouse button to increase the bass.

Balance

The balance setting controls the balance between the left and right external speakers. It appears gray and won't highlight if you haven't connected external speakers. Balance applies to all sources you have connected.

- Press the left mouse button to increase the amount of sound coming from the left external speaker.
- Press the right mouse button to increase the amount of sound coming from the right external speaker.

NOTE: *Changing the volume from the menu is the same as changing it using the keypad.*

NOTE: *The projector has no internal speakers, but it can be used to control external speakers when you connect an audio source and external speakers.*

Image Menu

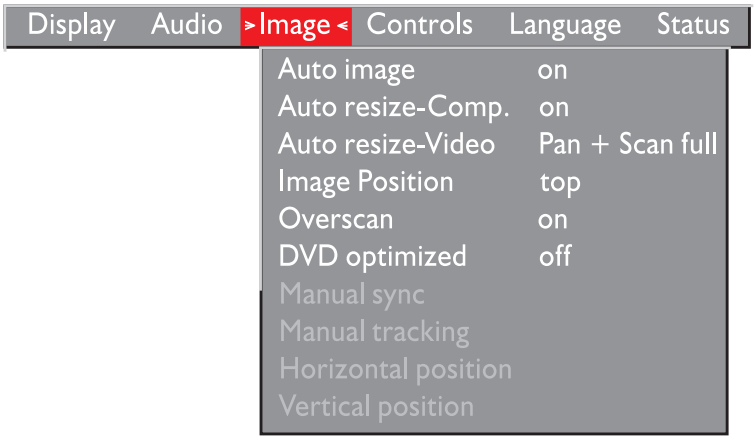

FIGURE 19

Image menu

Auto Image

The projector automatically adjusts tracking, signal synchronization and vertical and horizontal position for most computers. If you want to adjust these features manually, you must turn off **Auto Image** first by highlighting it in the menu and clicking either mouse button to select "off".

Auto Resize-Computer

Auto Resize-Comp automatically resizes the image by scaling it up or down.

When **Auto Resize-Comp** is on, the projector makes the best fit of the computer image to the screen. If you turn it off, the image may be either cropped or too small for the screen.

NOTE: *If you have a 16x9 screen, use the 4x3 native mode.*

Auto Resize-Video

This setting allows you to select from among four different re-sizing options for your video image. Pan + Scan mode is 4x3 format, Anamorphic is 16x9 format. For each format, you can select full (fully resized) or native (non-resized) modes.

Image Position

This setting allows you to re-position a 16x9 or native mode video image. Select among top, bottom, and center by highlighting Image Position in the menus and clicking either mouse button to cycle through the options.

Overscan

This option crops all the edges of the image to remove noise generated on the edges by your source.

DVD Optimized

This option improves the image quality of DVD images. Only turn this feature on if you are using a DVD player. **Do not turn it on if you are using a VCR.** This feature is only available for NTSC video.

Manual Sync

The projector adjusts signal synchronization automatically for most computers. But if the projected computer image looks fuzzy or streaked, try turning **Auto Image** off then back on again. If the image still looks bad, try adjusting the signal synchronization manually as described below.

1. Turn **Auto Image** off.
2. Move down to Manual sync, then press either mouse button repeatedly until the image is sharp and free of streaks.

Manual Tracking

The tracking function adjusts the projector to match the signal from your computer. The projector usually adjusts the tracking automatically when you connect your computer. However, if the display shows evenly spaced, fuzzy, vertical lines or if the projected image is too wide or too narrow for the screen, try turning **Auto Image** off then back on again. If the image is still bad, try adjusting the tracking manually as described below.

1. Turn **Auto Image** off.
2. Press either mouse button repeatedly until the fuzzy vertical bars are gone.

NOTE: *The* ***Manual Sync****,* ***Manual Tracking****,* ***Horiz. Position*** *and* ***Vert. Position*** *buttons are available only for computer sources. The projector sets these options automatically for a video source.*

Horizontal Position

Follow these steps to manually adjust the horizontal position.

1. Turn **Auto Image** off.
2. Press the left mouse button to move the image right; press the right mouse button to move the image left.

Positioning adjustments are saved when you power off the projector.

Vertical Position

Follow these steps to manually adjust the vertical position.

1. Turn **Auto Image** off.
2. Press the left mouse button to move the image down; press the right mouse button to move the image up.

Positioning adjustments are saved when you power off the projector.

Controls Menu

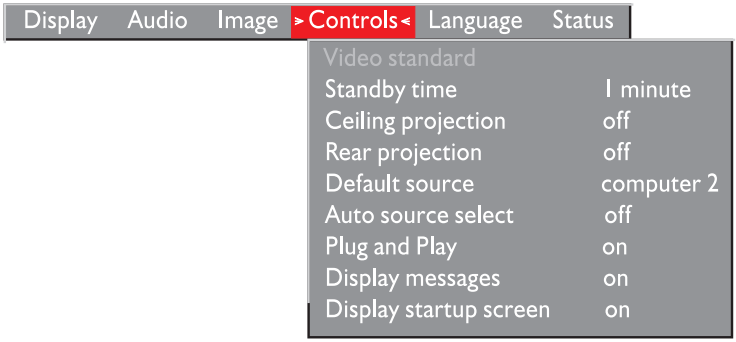

FIGURE 20

Controls menu

Video Standard

The projector can display NTSC and PAL, PAL-M, and PAL-N video. Select a standard by clicking either mouse button and cycling through the standards.

Standby Time

This option lets you select how long the lamp stays on and the blank screen is displayed when you enter standby mode before the projector turns off. Select among 1, 5, 10, and 15 minutes and 1 and 2 hours by clicking either mouse button and cycling through the options.

Ceiling Projection

- Click either mouse button to turn the image upside down for ceiling-mounted projection.

Rear Projection

- Click either mouse button to reverse the image so you can project from behind a translucent screen.

Default Source

Default Source toggles between Computer and Video. This determines which source the projector checks first for active video during power-up. Click either mouse button to toggle between the options.

NOTE: *To order the LS700 Ceiling Mount, refer to "Optional Accessories" on page 46.*

Auto Source Select

This setting toggles between On and Off. When this feature is Off, the projector defaults to the source selected in Default Source. To display another source, you must manually select one by pressing the **computer** or **video** button on the keypad or remote. When this feature is On, the projector automatically finds the active source, checking the default source first. Click either mouse button to toggle between the options.

Plug and Play

This setting toggles between On and Off. When it is On, most new computers will automatically recognize the projector, then set the monitor resolution and refresh rate accordingly. You need to set the Plug and Play setting to Off for the projector to display properly on some older computers. The Plug and Play setting does not affect video images. If the projector display constantly changes between the computer image and the message, "Perfecting the image", you may need to set Plug and Play to Off.

Display Messages

This setting toggles between On and Off. When this feature is On, status messages such as "No signal detected" and "Standby" appear in the lower-right corner of the screen. Click either mouse button to turn this feature off and not see status messages.

Display Startup Screen

This setting toggles between On and Off. When this feature is On, the InFocus startup screen appears when the projector starts up and remains until an active source is detected. The startup screen contains information on contacting InFocus. Click either mouse button to turn this feature off and display a plain black or blue screen instead of the startup screen.

Language menu

FIGURE 21

Language menu

You can display the on-screen menus in English, French, German, and Spanish. The default is English.

- Move the cursor to the language you want, then click either mouse button. The menus redraw immediately.

Status menu

This is a read-only menu for informational purposes. To display the status window, select Show status from the menu, then click either mouse button. To remove the window, click either mouse button.

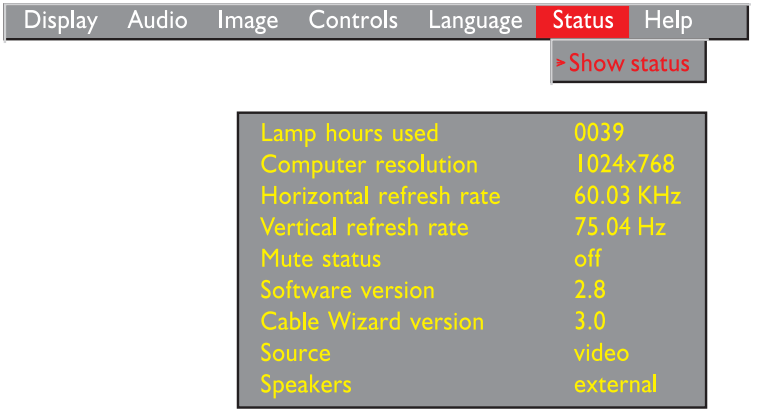

FIGURE 22

Status menu

Lamp hours used
Indicates how many hours the current lamp has been in use. The counter starts at zero hours and counts each hour the lamp is in use. When the counter reaches 2000 hours, the lamp monitor light turns on. Change the lamp when the brightness is no longer acceptable. See "Replacing the Projection Lamp" on page 33 for details.

Computer resolution
Shows your computer's resolution setting. To change this, go to your computer's Control Panel and adjust the resolution in the Display tab. See your computer's user's guide for details.

Horizontal refresh rate (KHz)
The frequency that one horizontal line is displayed.

Vertical refresh rate (Hz)
The frequency that one video frame is displayed.

Mute status
Indicates if the audio is muted.

Software version
Indicates the projector's software version. This information is useful when contacting Technical Support.

CableWizard version
Indicates the CableWizard's software version. This information is useful when contacting Technical Support.

Source
Indicates the active source, Computer or Video.

Speakers
Indicates if external speakers are connected.

Help menu

This read-only menu displays the on-line help.

MAINTENANCE & TROUBLESHOOTING

This section describes how to:

- clean the lens
- clean the fan intake filter
- replace the projection lamp
- replace the batteries in the remote control
- use the Kensington lock feature
- troubleshoot the projector

Cleaning the Lens

Follow these steps to clean the projection lens:

1. Apply a non-abrasive camera lens cleaner to a soft, dry cloth.
   - Avoid using an excessive amount of cleaner.
   - Abrasive cleaners, solvents or other harsh chemicals might scratch the lens.
2. Lightly wipe the cleaning cloth over the lens.
3. If you don't intend to use the projector immediately, replace the lens cap.

Cleaning the Fan Intake Filter

The fan intake filter on the bottom of the projector catches dust and particles in the air. If the filter becomes clogged, the projector does not cool properly and may malfunction. To prevent this, clean the filter after every 100 hours of use.

1. Turn off the power and unplug the power cord.
2. Remove the filter door.
   - Carefully place a screwdriver against the indented part of the filter door and lift out.

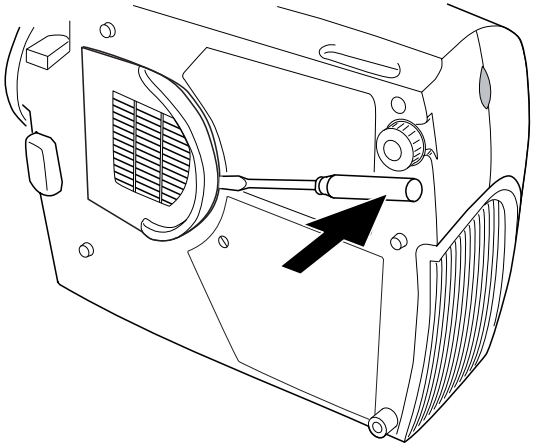

FIGURE 23

Removing the filter door

3 Clean the filter.

- Use a vacuum cleaner set on low power to remove the dust and dirt. Be sure to vacuum from the filter door side through the vents and not directly on the filter itself.

4 Replace the filter.

- First, insert the side with the tabs, then press the other end in place.

Replacing the Projection Lamp

The lamp hour counter on the status bar at the top of the menus counts the number of hours the lamp has been in use. After 2000 hours of use, the lamp monitor LED, marked on the top of the projector near the keypad, lights. Change the lamp when the brightness is no longer acceptable. You can order new lamp modules from your InFocus dealer. See "Accessories" on page 45 for information.

Follow these steps to replace the projection lamp:

1. Turn off the projector and unplug the power cord.
2. Wait 30 minutes to allow it to cool thoroughly.
3. Using a small, flat-blade screwdriver, remove the screw on the outside of the lamp door (Figure 24).
4. Pull the lamp cover up and remove it.

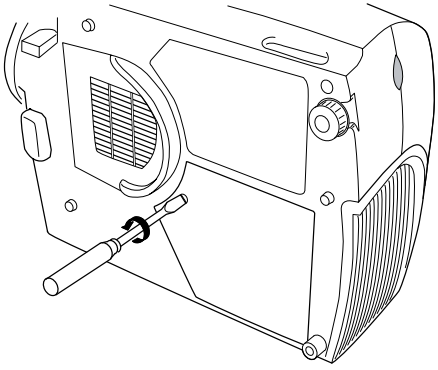

FIGURE 24

Removing the lamp module door

5. Loosen the two non-removable screws on the outside of the module.
6. Remove the module (Figure 25).

WARNING: *To avoid burns, allow the projector to cool for at least 30 minutes before you open the lamp module door. Never extract the lamp module while the lamp is operating.*

CAUTION: *Never operate the projector with the lamp cover open or removed. This disrupts the air flow and causes the projector to overheat.*

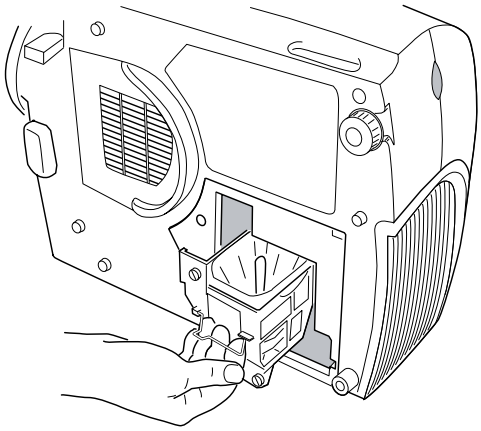

FIGURE 25

Removing the lamp module

WARNING: *Do not drop the lamp module or touch the glass bulb! The glass may shatter and cause injury.*

7 Align the new lamp module in the correct direction.

8 Gently push the module in as far as it goes (Figure 26).

9 Tighten the screws on the outside of the module.

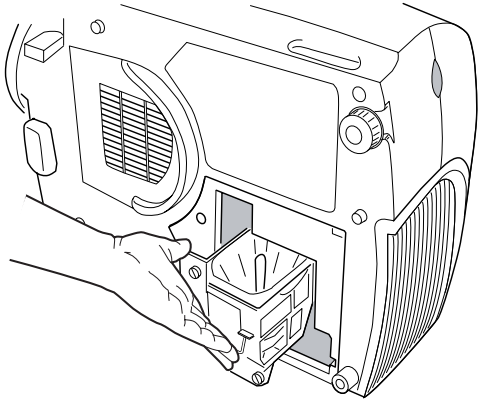

FIGURE 26

Installing a new lamp module

10 Reposition the lamp cover.

11 Replace the screw and tighten it.

12 Plug in the power cord and turn the projector back on. The lamp monitor light and lamp hour counter in the Status menu are automatically reset.

Replacing the Batteries in the Remote Control

The life of the batteries depends on how often and how long you use the remote. Symptoms of low battery charge include erratic responses when using the remote and a reduced range of operation.

Follow these steps to replace the batteries:

1 Turn the remote face down in your hand.

2 Slide the battery cover off the end of the remote by pressing on it with the heel of your hand.

3 Remove the old batteries.

4 Install two new AA alkaline batteries. Make sure you install each in the correct direction.

5 Slide the battery cover back on the remote.

Using the Kensington Lock

The projector has a Kensington Security Standard connector for use with a Kensington MicroSaver Security System (Figure 27). Refer to the information that came with the Kensington System for instructions on how to use it to secure the projector.

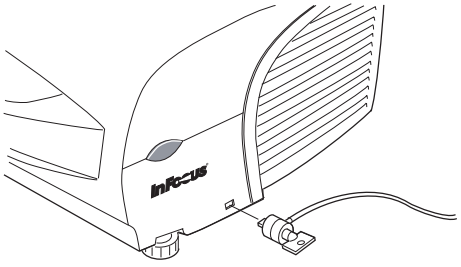

FIGURE 27

Installing the Kensington lock

Troubleshooting

If you're experiencing trouble with the projector, follow these steps to make sure everything is properly connected before you call Technical Support for assistance.

1. Check cable connections. Verify that all computer, CableWizard and power cables are properly connected.
2. Verify that all power is switched on.
3. Verify that the projector has not been switched off with the **standby** button on the keypad.
4. If the projector still doesn't display an image, restart the computer.

NOTE: *Macintosh computers require a specific power-up sequence: the projector must be turned on before you turn on the computer.*

5. If the problem still exists, unplug the projector from the computer and check the computer monitor's display. The maximum resolution that the 700 can display is 1024x768 pixels. The problem might be with the graphics controller in your computer rather than with the projector. When you reconnect the projector, remember to turn the computer and monitor off before you power up the projector. Power the equipment back up in this order: projector, monitor, computer.
6. If you're using a laptop computer and it is not displaying your presentation, make sure you have activated the computer's external video output. Most laptop computers do not automatically turn on their external video port when a secondary display device such as a projector is connected. Refer to your computer's manual for more information.
7. If the problem still exists, read through the problems and solutions in this chapter.

Solutions to Common Problems

Problem: Nothing on projection screen

- Make sure that the power cord is properly connected to a functional AC electrical outlet. Make sure that the power cord is also properly connected to the projector.
- If the projector is plugged into a power strip, make sure the power strip is turned on.
- Make sure you have removed the lens cap from the projection lens at the front of the projector.
- Make sure the projector is switched on.
- Check the projector's lamp to ensure that it is securely connected in the lamp module. See "Replacing the Projection Lamp" on page 33.

Problem: Image not being projected

- You might need to adjust the brightness or contrast until the image is visible. See page 21.
- Verify that the appropriate input source is selected. See "Computer" on page 17 or "Video" on page 18.

Problem: Image from VCR does not display properly.

- Make sure "DVD Optimized" is turned off in the Image menu. See page 25.
- Adjust your VCRs sharpness control, if available.
- Adjust the projector's contrast control to perfect the image.

Problem: Image from source using S-video does not display.

- Press the Video 1 button on the remote to toggle between composite video and S-video. See page 18.

Problem: PAL video does not display correctly.

- Select PAL from the Video Standard options in the Controls menu. See "Video Standard" on page 27.

Problem: Image has noise on the edges.

- Turn on Overscan in the Image menu. See page 25.

Problem: Image seems stretched from top to bottom.

- Your video is in anamorphic 16x9 format. Press the Video 2 button on the remote to toggle between 4x3 and 16x9 formats. See page 18.

Problem: Image looks too red or blue.

- Change the Color Temperature. See "Color Temperature" on page 22.

Problem: no sound when no external speakers connected

- Press the mute button.
- Adjust volume.
- Verify audio/input connections. Make sure external speakers are connected, as the projector does not have internal speakers.
- Adjust audio source.

Problem: Only the start-up screen displays

- Verify that the cables are connected correctly. Check to see that the CableWizard computer cable is correctly connected to the monitor connector on the computer (this is the connector where your monitor cable usually goes.) See page 10 for connection procedures.
- Verify that the proper input source is connected. See "Computer" on page 17 or "Video" on page 18.
- You might need to turn everything off and power up the equipment again. Make sure you power up in this order: projector, computer monitor, computer or video player. It is especially important that you follow this sequence for Macintosh computers.
- Make sure your computer's graphics board is installed and configured correctly.

  If you're using Windows 3.x:

  1. In the Windows Program Manager, double-click the Windows Setup icon in the Main program group.
  2. Verify that the Display setting is 1024x768 or less.

If you're using Windows 95:

1. Open "My Computer" icon, the Control Panel folder and then the Display icon.
2. Click the Settings tab.
3. Verify that the Desktop area is set to 1024x768 or less.

Also check the following:

- Does your computer have a compatible graphics port? The projector isn't CGA or EGA compatible.
- Is your computer's graphics board turned on? This is especially true for laptop computers.

Problem: Computer image isn't centered on the screen

- Reposition the image. Refer to "Horizontal Position" on page 26 and "Vertical Position" on page 26.
- If you're using an extension cable between the CableWizard and the projector, make sure it's InFocus-approved.

Problem: Image is too wide or narrow for screen

- You might need to manually adjust the tracking to reduce or enlarge the projected image. Refer to "Manual Tracking" on page 25.
- Adjust the resolution of your monitor if it's greater than 1024x768. Only these resolutions at 75 Hz or less will display on the projector.

Problem: Image is out of focus

- Turn the projection lens to focus the image.
- Make sure the projection screen is at least 4 feet (1.2m) from the projector.
- Make sure the projector is turned off, then check the projection lens to see if it needs cleaning.

Problem: Image and menus are reversed left to right

- Rear projection mode is probably turned on. Switch back to forward projection from the Controls menu. The image should immediately return to forward projection. See “Rear Projection” on page 27.

Problem: Image and menus are upside down

- Ceiling mode is probably turned on. Turn off the mode from the Controls menu. The image should immediately return to forward projection. See “Ceiling Projection” on page 27.

Problem: the projector displays vertical lines, “bleeding” or spots

- Adjust the brightness. See “Brightness” on page 19.
- Make sure the projector is turned off, then check the projection lens to see if it needs cleaning.

Problem: The screen resolution is not right

- Make sure the computer’s graphics card is set for a resolution of no greater than 1024x768.

Problem: Image is “noisy” or streaked

Try these steps in this order.

1. Deactivate the screen saver on your computer.
2. Turn **Auto Image** off and then back on again. See “Auto Image” on page 24.
3. Adjust the synchronization and tracking manually to find an optimal setting. See “Manual Sync” on page 25 and “Manual Tracking” on page 25.

- If you’re using an extension cable between the CableWizard and the projector, make sure it’s InFocus-approved.
- The problem could be with your computer’s graphics board. If possible, connect a different computer.

Problem: Projected colors don’t match the computer or video player’s colors

- Adjust the brightness, tint and / or contrast from the Display menu. Just as there are differences in the displays of different monitors, there are often differences between the computer image and the projected image. See “Brightness” on page 19, “Color” on page 22 and “Contrast” on page 21.

Problem: Lamp seems to be getting dimmer

- The lamp begins to lose brightness when it has been in use for a long time. Replace the lamp as described in "Replacing the Projection Lamp" on page 33.

Problem: Lamp shuts off

- A minor power surge may cause the lamp to shut off. Turn the projector off, wait at least 30 seconds, then turn it back on.

Problem: Remote not operating correctly

- You might need to replace the batteries. See "Replacing the Batteries in the Remote Control" on page 35.
- Make sure you're pointing the remote either at the back or front of the projector, or at the projection screen.
- Make sure the remote is within its operating range of 40 feet.

Before calling for assistance, please have the following information available:

- the projector's serial number (located on the bottom label)
- the resolution of your computer.

Call your Faroudja dealer or Faroudja at **1-408-735-1492**.
You can also call InFocus Customer Service directly at **1-800-799-9911**. Customer Service is free between 6 a.m. and 6 p.m. PST, Monday through Friday. Service is available in North America after hours and on weekends for a fee at **1-888-592-6800**.

In Europe, call InFocus in The Netherlands at **(31) 35-6474010**.
In Singapore, call **(65) 332-0659**.

Or, send us an e-mail at **techsupport@infocus.com**

Our World Wide Web address is **http://www.infocus.com**.

APPENDIX

Specifications

The LS700 must be operated and stored within the temperature and humidity ranges specified.

Temperature	
Operating	0 C to 40° C at 0 ft; 0 C to 35° C at 10,000 ft
Non-operating	-20 to 70° C

Humidity	
Operating and non-oper.	5% to 95% relative humidity, non-condensing

Dimensions
6.0 x 15.3 x 11.7 inches (15.3 x 38.8 x 29.8 cm)

Weight
12.2 lbs. (5.5 kg) unpacked

Altitude	
Operating	0 to 10,000 feet (3048 meters)
Non-operating	0 to 40,000 feet (12,192 meters)

Audio Output	
Frequency Response	10 Hz - 20 KHz
Output Impedance	1.2 K ohm nominal
Output Voltage	2 Vrms maximum (open circuit)
Connector Type	red and white RCA jacks

Optics	
Focus Range	3.25 - 32.5 feet (1-10 m)

Lamp	
Type	150-watt UHE

Remote Control

Battery	Two (2) AA alkaline cells

Input Power Requirements

100-120/220-240V, 5.0/3.0A, 50/60 Hz.

Video Audio Input

Input Impedance	5K ohm DC coupled
Maximum Input Voltage	$(L_{IN} + R_{IN})_{PEAK} < 4.5$ V for THD $\leq 0.3\%$ L_{IN} or $R_{IN} < 2.0$ Vrms for THD $\leq 0.3\%$
Sensitivity	100 mV at 1 KHz for 88 dB SPL at 1 meter
Connector Type	RCA jack

Accessories

Standard Accessories (ship with the projector)	Part Number
LS700 User's Guide	010-0193-xx
Shipping Box	110-0226-xx
CableWizard Lite Computer Cable with Ferrite	210-0162-xx
Projection Lamp Module	SP-LAMP-LP7E
Lens Cap	505-0241-xx
Audio/Video Cable with Ferrite	210-0163-xx
Remote Control and 2 Batteries	SP-CONF-REM

Power Cords (one ships with projector, type depends on country)

North American Power Cord	210-0023-xx
Australian Power Cord	210-0027-xx
UK Power Cord	210-0028-xx
European Power Cord	210-0029-xx
Danish Power Cord	210-0030-xx
Swiss Power Cord	210-0031-xx

NOTE: *Use only InFocus-approved accessories. Other products have not been tested with the projector.*

Optional Accessories

Easy Carry Case	CA-C129
Soft Case	CA-C122
European Hard Case	CA-C130
Hard Travel Case	CA-C123
Deluxe Travel Case	CA-C128
ATA Shipping Case	CA-C124
CableWizard and cables	SP-CW2
Mac Adapter for CableWizard Lite	SP-MACADPT
CableWizard Extension Cable, non-plenum rated, 60.7 ft (18.5 m)	SP-CW2EXT
CableWizard Extension Cable, plenum-rated, 60.7 ft (18.5m)	SP-CW2EXTP
Executive Remote Control	HW-EXREM
Remote Cable	210-0088-xx
Kensington MicroSaver Security System	SP-KENLOC
SGI/SUN Workstation Cables	SP-CABLE-WS
Rhapsody II Speakers	SP-R2SPKR
JBL Subwoofer	SP-JBLSUB
Portable Projector Stand	SP-STND
S-Video Cable	515-0027-xx
LP700 Series Ceiling Mount-LiteMount 7	SP-CEIL-LM7
LiteMount False Ceiling Plate	SP-LTMT-PLT
LiteMount Pipe Tubing Extension	SP-LTMT-EXT
CableWizard Wall Plate	SP-CWWALL
3rd Year Advantage Service Plan (1 year extension)	EW-LP7xx-12

Projected Image Size

Use the chart below and the tables on the next page to help you determine projected image sizes. Note that these sizes are for 4x3 images only.

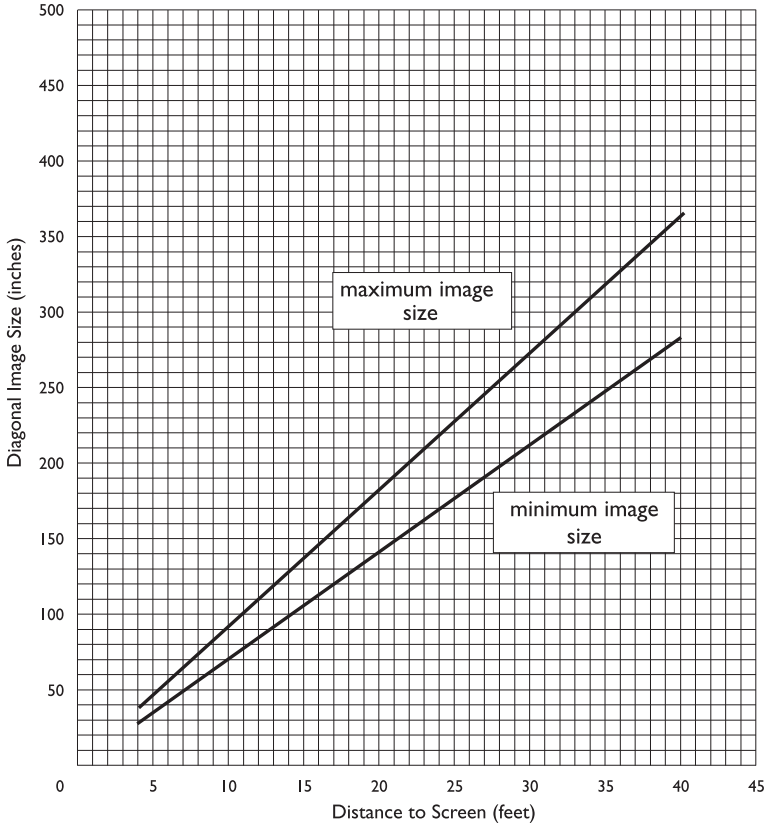

FIGURE 28

Projected image size

Table 1:
Image Size, Width and Height for Lens at Maximum Image Size

Distance to Screen (feet)	Diagonal (inches)	Width (inches)	Height (inches)
4	36	29	22
10	91	73	55
15	137	110	82
20	182	146	109
25	228	182	137
30	274	219	164
35	319	255	191
40	365	292	219

Table 2:
Image Size, Width and Height for Lens at Minimum Image Size

Distance to Screen (feet)	Maximum Diagonal (inches)	Maximum Width (inches)	Maximum Height (inches)
4	28	22	17
10	71	57	43
15	106	85	64
20	142	114	85
25	177	142	106
30	212	170	127
35	248	198	149
40	283	226	170

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